

Claims

Claims 1-22 (Canceled).

Claim 23 (New): A method of promoting nerve growth a mammal having a partially transected spinal cord, the method comprising:

administering to the mammal a pharmaceutical composition comprising a nerve growth stimulating amount of a non-FKBP12-binding agent that binds to a polypeptide component of a steroid receptor complex other than a steroid hormone binding portion of the complex wherein the agent interferes with association or promotes dissociation of hsp90 with the complex and promotes nerve growth, thereby promoting nerve growth.

Claim 24 (New): The method of claim 23 wherein the non-FKBP12-binding agent is administered in a gap-filling composition comprising the non-FKBP12-binding agent.

Claim 25 (New): The method of claim 23, wherein the agent is selected from the group consisting of a non-FKBP12-binding FK506 analog, a benzoquinone ansamycin, a peptide comprising a sequence of a selected polypeptide component of the steroid receptor complex at a site of interaction between the selected component and another polypeptide component of the steroid receptor complex, an antibody that binds to a polypeptide component of the complex, and combinations thereof.

Claim 26 (New): The method of claim 25, wherein the agent is a benzoquinone ansamycin.

Claim 27 (New): The method of claim 26, wherein the benzoquinone ansamycin is a geldanamycin derivative.

Claim 28 (New): The method of claim 23, wherein the agent binds to FKBP12 with an apparent K_d of greater than 10 μ M.

Claim 29 (New): The method of claim 28, wherein the agent binds FKBP12 with an apparent K_d of greater than 30 μM .

Claim 30 (New): The method of claim 29, wherein the agent binds FKBP12 with an apparent K_d of greater than 100 μM .

Claim 31 (New): The method of claim 23, wherein the agent is selected from the group consisting of a peptide comprising a sequence from a component of the steroid receptor complex which peptide inhibits assembly or promotes dissociation of the steroid receptor complex, an antibody that binds to a component of the steroid receptor complex and prevents assembly or promotes dissociation of the steroid receptor complex, a benzoquinone ansamycin, or an FK506 analog which binds to FKBP12 with a K_d of at least 10 μM , and combinations thereof.

Claim 32 (New): The method of claim 23, further comprising grafting to the spinal cord an allograft or artificial nerve graft.

Claim 33 (New): The method of claim 23, wherein the agent is in combination with a neurotrophic factor, other than the agent.

Claim 34 (New): The method of claim 33, wherein the neurotrophic factor is NGF, estrogen, or dexamethasone.

Claim 35 (New): A method of treating a mammal having a partially transected spinal cord, comprising identifying a compound that stimulates nerve cell growth, by determining whether the agent promotes disruption or interferes with assembly of a steroid receptor complex, and applying the compound locally to the partially transected spinal cord, thereby treating the mammal.

Claim 36 (New): The method of claim 35, wherein the agent promotes hsp90 dissociation from the steroid receptor complex, or inhibits hsp90 association with the complex.

Claim 37 (New): A method of promoting nerve repair in a mammal having a spinal cord injury, the method comprising:

administering to the mammal a pharmaceutical composition comprising a nerve repair stimulating amount of an agent, other than FK506, that binds to a polypeptide component of a steroid receptor complex other than a steroid hormone binding portion of the complex, and which promotes hsp90 dissociation or inhibits hsp90 association with the complex, and promotes repair of the injury, wherein the spinal cord injury is a partial transection.

Claim 38 (New): The method of claim 37, further comprising grafting to the partial transection an allograft, and the agent is administered in a therapeutically sufficient amount that promotes growth of the nerve graft.

Claim 39 (New): The method of claim 38, further comprising grafting an artificial nerve graft to the partial transection.

Claim 40 (New): The method of claim 39, wherein the artificial nerve graft is a collagen nerve graft, and the agent is administered in a therapeutically sufficient amount that promotes growth of the partially transected spinal cord.

Claim 41 (New): The method of claim 37, further comprising applying a therapeutically effective amount of the agent directly to an injured area of the spinal cord to promote nerve growth at the injured area.

Claim 42 (New): The method of claim 41, wherein applying the agent directly to the injured area comprises contacting the partial transection with a therapeutically effective amount of the agent to promote nerve growth at the partial transection.

Claim 43 (New): The method of claim 37, further comprising filling the partial transection with a gap filling material that includes a therapeutically sufficient amount of the agent to promote nerve growth into the spinal cord.

Claim 44 (New): The method of claim 43, wherein the gap filling material comprises a cellular or non-cellular gap filling material.

Claim 45 (New): The method of claim 44, wherein the gap filling material is a non-cellular gap filling material.

Claim 46 (New): The method of claim 45, wherein the non-cellular gap filling material is collagen.

Claim 47 (New): The method of claim 37, wherein the nerve repair stimulating agent is administered along a path for new nerve growth.

Claim 48 (New): The method of claim 37, wherein the agent is:

- (a) an FK506 analog
- (b) a benzoquinone ansamycin
- (c) a peptide comprising a sequence of a polypeptide component of the steroid receptor complex at a site of interaction between the selected component and another polypeptide component of the steroid receptor complex; or
- (d) an antibody that binds to a polypeptide component of the steroid receptor complex.

Claim 49 (New): The method of claim 48 wherein the agent is non-immunosuppressive.

Claim 50 (New): The method of claim 48, wherein the agent is an FK506 analog.

Claim 51 (New): The method of claim 48, wherein the agent is a benzoquinone ansamycin.

Claim 52 (New): The method of claim 23, further comprising administering a second neurotrophic agent in an amount that promotes nerve growth in combination with the pharmaceutical composition.

Claim 53 (New): The method of claim 52, wherein the second neurotrophic agent is NGF, IGF-1, aFGF, bFGF, PDGF, BDNF, CNTF, GDNF, NT-3, or NT 4/5.

Claim 54 (New): A method of improving nerve growth into a partial transection of a spinal cord, comprising:

introducing into the transection NGF and a non-cellular gap filling agent that includes a therapeutically effective amount of a benzoquinone ansamycin that binds to a polypeptide component of a steroid receptor complex other than a steroid binding portion of the complex, wherein the NGF and benzoquinone ansamycin are present in a therapeutically sufficient amount to interfere with association or promote dissociation of hsp90 from the complex, and promote nerve growth into the spinal cord.